



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

FOREST RESOURCES AND CONSERVATION¹

BY JOHN H. FINNEY,

Secretary, The Appalachian National Forest Association, Washington, D. C.

The new spirit of the old South breathes "opportunity." It is still the old South with all its charm and glamour and hospitality, extending wide its arms and speaking in a new voice to the world. It is opportunity that calls for a vast and profitable exploitation of her material resources in all the things which are making this a new field for human endeavor and national prosperity, and opportunity that calls for wise statesmanship and unselfishness in all which makes for their proper exploitation and their wise conservation.

Of the South's material resources, her heritage of forests must be accounted as of large, if not indeed paramount, importance, for in the sixteen states denominated and accounted here as southern, lie all of one of the five great original forest types, the southern, a considerable portion of the northern, and the largest part of the central, or nearly one-half of the original forest area of the nation.

Original Forests

Geologists tell us that far back of the four thousand years of recorded forest knowledge and experience had by the race, there was a time when all of the American continent was one vast plain, densely covered by forests to as far north as Greenland; that the forests are older than the mountain ranges which rear their heads as though from the very beginning of things; that in spite of climatic and other changes which the centuries have wrought, some of the species which flourished in these ancient forests are in existence to-day, notably the magnolia and the tulip tree, both beautiful gems of the southern Appalachians.

As of more intimate concern, however, we find that at the time of the discovery of the American continent by Columbus, the original forests of the nation exceeded in quantity and variety of

¹The author acknowledges with thanks valuable data from the Forest Service in the preparation of this paper.

their species the forests of any other region of similar size on the globe; they consisted of five great forest types, namely, the northern, southern, central, Rocky Mountain and Pacific coast, and these names are indicative of their relative location.

The so-called southern forest began in New Jersey; from this point widening out southward and westward through Maryland and Virginia, covering most of North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi and Louisiana, a large portion of eastern Texas, southern and western Arkansas, with a considerable portion in southern Missouri. This area was a coniferous forest, the yellow pine predominating, but mixed with pine were cypress, oak, gum, magnolia, poplar, and a variety of other hard woods.

The so-called northern type extended from Maine on the north, through New England, across New York and most of Pennsylvania; thence along the lakes through Ohio; thence to the northern portion of Michigan and Minnesota to the western border of the latter state, with an extension southward along the high ridges of the Appalachian range to as far south as northern Georgia. This forest, like the southern, was a coniferous one, and was the home of the white pine, associated therewith being red pine, spruce, hemlock, cedar, cherry and hard-wood species of minor importance.

The central type lay stretched between these two, from the Atlantic coast to the plains of the Middle West, covering the east and west slopes of the Appalachian range and foot-hills, and including all of Tennessee and Kentucky; with small portions in northern Alabama, Georgia and Mississippi, with large areas in central Texas, in central Oklahoma, and covering nearly all of Missouri. With its lines not very sharply defined, the central type was the only forest area in the United States in which the hard woods predominated, and they grew in extreme abundance and wide variety—walnut, oak, elm, hickory, chestnut, sycamore, and many other valuable varieties reaching here their maximum development. These three great forest types originally covered in the South an area of approximately 400 million acres, or about one-fifth of the total land area of the United States, and contained in the same boundaries not far from fifty per cent of the nation's total timber, out of the 5,200 billion feet in all the forests.

The Present Forest

The present bounds of the above original forest type in the South remain the same in general, as does the respective character of timber growth, except that the original areas and their contents have been greatly reduced by cutting, clearing and fire, so that we find, starting with an original forest area in the nation of 850 million acres, containing a stand of 5,200 billion board feet, we have remaining as the total timber supply of the United States, not over 550 million acres, with a total stand of about 2,500 billion board feet.

The stand of timber in every region has been reduced in even greater proportion than has the actual forest acreage; whereas the northern forest originally contained 150 million acres and 1,000 billion feet, it now contains about ninety million acres and 300 billion feet, or sixty per cent of its original area and thirty per cent of the stand; the southern forest originally contained 220 million acres and 1,000 billion feet, and now contains 150 million acres and 500 billion feet, or sixty-eight per cent of its former area and fifty per cent of its former stand; the central, originally containing 280 million acres and 1,400 billion feet, has been reduced to 130 million acres and 300 billion feet, or forty-six per cent of the original area and twenty-one per cent of the stand.

It will be seen that the central forest has suffered the most, and this is due to its location in the rich agricultural states, where the hard woods predominated, and were consequently cleared to make way for farming operations—more than they were cut for lumber,—resulting in the practical extinction of the hard woods in the central agricultural states. I qualify the words “practical extinction” by citing the known fact that the present stand of hard woods in the Lakes region is so small as to be relatively unimportant when considered for lumber operations.

Southern Forests Species

Chief in quantity of stand, value of cut, and widest use, is yellow pine, of which the principal species, cut in Georgia, Florida, Alabama, Mississippi, Louisiana and Texas, is the long-leaf pine, this species amounting to fifty per cent of the total cut. The cut of this in 1907 was about thirteen billion feet, and while the total stand may be 350 billion feet, there are heavy drains on the stand

from other sources than lumber operations. This species is heavily damaged by forest fires, by the naval stores industry, and by insects and wind following this industry; and it is said by many operators that their supply will be exhausted within the next fifteen years, at the present rate of cutting. The center of yellow pine production, held by Georgia, in 1900, has rapidly moved westward in recent years, and is probably now in Texas, this state being second in 1907, with more than sixteen per cent of the total cut.

Oaks are the most widely distributed forest trees in the South and assume large importance as a southern product. There was cut in 1907 something over two and one-half billion feet of this species in the South, with West Virginia slightly in the lead in production, and Kentucky almost equaling her, nearly one-fourth of the total output coming from these two states; while in 1900, Indiana ranked first, with nearly three times as great production as in 1907. The cutting out of the northern supplies of oak from the central forests has compelled the shifting of the industry southward.

Yellow poplar is another valuable species, in the production of which Kentucky, West Virginia and Tennessee have long been the leading states. In both 1906 and 1907 these states furnished three-fifths of the total cut. In cypress there is said to exist a stumpage of about twenty billion feet, with an annual cut of about three-fourths of a billion; Louisiana is pre-eminently the cypress producing state, and its output in 1907 was more than two-thirds of the total cut. Red gum is a species found almost exclusively in the central and southern states, Arkansas leading in its production in 1907, with an output of more than one-third of the total cut.

Chestnut, owing to the rapidity and ease with which it reproduces from sprouts after cutting, makes a valuable species of the Appalachian range, and is one of the characteristic trees there. While Pennsylvania ranked first in chestnut production in 1907, West Virginia was a close second, followed by Tennessee, Connecticut and North Carolina in the order named.

In hickory production Arkansas ranked first in 1907, with fifteen per cent of the total cut, with Kentucky, Indiana and Tennessee closely following in the order named. Owing to the fact that hickory is not found in pure stands, but is thinly scattered throughout hard-wood forests over a wide area, it is difficult to

make an accurate estimate of the total stumpage of this variety. The same comment can be made of the other hard woods, such as the maple, chestnut, beech, birch, basswood, elm, ash, walnut, etc., but the significant fact remains that it is to the South the nation must look for its future supply of hard wood, as will be shown later.

As a forest resource of great importance must be classed the naval stores industry. Data recently gathered by the forest service shows a production in 1908 of over thirty-six million gallons of turpentine and four million barrels of rosin. Georgia and Florida supply two-thirds of this total, and the manufacture and exporting of this material is of enormous value to these states, and to the great ports of Jacksonville and Pensacola. It should be noted in passing, that while this industry does not necessarily destroy the forests, and could be made, under proper methods, a perpetual source of income, the methods commonly used in the majority of turpentinizing operations, and subsequent wind storms and fire damage, have resulted in the needless destruction of vast quantities of saw timber, are rapidly placing this industry in a most critical condition, and signing its death warrant!

Southern Forest Ownership

There are four national forest areas in the South, two containing 674,891 acres in Florida, in the Ocala and Choctawhatchie Reserves, set aside last year, and two containing 3,189,781 acres in Arkansas, established in the spring of this year. These areas, while impressive as to acreage, are not of great value for a timber supply, for the good lumber has been "alienated" successfully in both states. The important remainder is individually owned throughout the whole South. These private forests are of practically two types:

(1) Farmers' wood lots, and relatively small holdings; (2) Large holdings, either individual or corporate, the latter used as the basis for timber cutting and manufacture, or held for subsequent cutting or sale.

The farmers' wood lots, or small holdings, are mainly scattered and detached remnants of the original forest area and have, as a rule, been severely culled and greatly damaged. They are chiefly valuable for ornamental or protective purposes, and for firewood supply, fence posts, cross ties, etc. While these holdings aggre-

gate, perhaps, over 100 million acres in the South, and may contain a stand of 150 billion feet of saw timber, their small area and their damaged condition make lumbering on any extensive scale impossible. The second-class, which comprises the large individual or corporate holdings, contains a stand, roughly estimated, of about 350 billion feet, and covers an area not far from 125 million acres.

The South has, in recent years, presented an attractive field for timber investments, particularly to capital which, having cut the northern forests and the important part of the central forests, was seeking and had to seek new fields for endeavor and profit. These private holdings are frequently of enormous size and are being exploited on a large scale. A conservative estimate places approximately seventy-five per cent of the large holdings in the hands of "alien" capital, and it need not be said, perhaps, that such holdings generally include the best timber in the regions in which they occur and are the principal sources of the present timber supply from that section.

The South's Pre-eminence

It must be apparent that the South can justly claim distinction in forest ownership and products, for we find from this review:

First. That it contains practically fifty per cent of the nation's remaining timber.

Second. That it is the home of the long-leaf pine, and it grows only there.

Third. That it is the home of the cypress, and it grows only there.

Fourth. That it is the home of the naval stores industry, and it exists only there.

Fifth. That in hard woods of all kinds it ranks first, and, of the utmost significance as regards these valuable species, the South contains in the Appalachian regions: (a) The natural home of the hard wood; (b) practically the only remaining stand of hard wood on the continent; and (c) practically the only remaining source of future hard wood supply.

That phase of this article dealing with "Conservation in the South" cannot be handled with the optimism displayed in dealing with the forest resources, for, while the forests are real and tangible, candor compels the statement that conservation ideas and

methods and appreciation are almost totally lacking. The title is more in keeping with the facts if called the "Need of Conservation in the South," and so handled, some of the essentials will be stated as a foundation upon which the South can build, and finally must build, lasting constructive work along conservation lines.

What "Conservation" Means

Conservation has been aptly put as the "application of common sense to common problems for the common good"—it is more than that, for it is a moral question involving common honesty to one's self and to posterity; an honest stewardship of the material things that are ours solely as trustees; a wise and economical use of them; a stoppage of the waste; an increase of human efficiency; the equality of opportunity. It is a new thought born of the foresight of such men as Gifford Pinchot, Theodore Roosevelt and others, and appealing none too soon to the inherent good sense of the American people, who are in part realizing how far we have wandered from this conception of our responsibilities and duties.

Some Present Southern Conditions

We find in existence in the South, as everywhere in the nation, much of the national characteristic of strenuous endeavor, and of the national desire to use most quickly and profitably the natural wealth, whether in mines, or soils, or streams or forests, and convert it into coin of the realm. It is no arraignment of the South in particular that this is so, or that the exploitation of this natural wealth has been accompanied there with the tremendous and lamentable waste which has been equally in evidence in every part of the republic. The fact that we have piled up national riches beyond counting, and are still achieving such material success as is making us richer day by day, does not clear the national conscience of the proved charge that the waste, the inefficiency and the disregard of the future which have accompanied this success, would have bankrupted any other nation on earth!

While the conservation idea covers all the natural wealth and the "need for conservation in the South" applies to the South's resources in all these things with grave force, I must needs deal primarily and principally with what I consider in the light of the forests' critical condition, its most important phase, namely, its

application to the forest question. The urgency of the forest question is of the first importance. The forest is the keystone of the whole conservation movement.

Soil improvement and intensive farming may come gradually without the farm disappearing; unimproved waterways remain for later improvement; mineral wealth in coal and iron and oil is not so seriously depleted but that skill in mining and more efficient methods and use will eventually stop, in large part, the present waste and stretch out over many long years our present supplies—but the forest faces its complete destruction within a decade or two, and the nation faces a timber famine that involves national disaster.

It is a sober statement of fact that we are using the forests at a rate more than three and one-half times the annual growth—that we have a tremendous drain on them from forest fires in addition to this use. This means but one thing—whether that time be fifteen or twenty or thirty years—the time will come when the destruction of our southern forests will be complete, and our present fair southland made into a desert, *if we do not remedy promptly the present conditions and soberly and resolutely assume our individual duty.*

That this is not a pessimistic stand or unwarranted statement is borne out by the facts, and here are the facts: Of the South's 125 million acres of privately owned lands, a bare one per cent of the area thereof is in any way being conserved and wisely handled, and this vast domain is uncontrolled by any state or national laws respecting its use or abuse. In no southern state is there an acre of land in "state forests," and it is true of most of them that there are neither funds available for the purchase of forest lands, nor inclination to find them for this purpose. In no southern state are there adequate laws to prevent forest fires, and most have none at all. In none of them, so far as I know, is there any set of officials charged with the enforcement of such as are written on the statute books, nor any present indications that adequate laws will soon be either written or enforced.

In all the southern states the method of taxation of forest lands is such that a premium is placed on forest destruction—much cutting necessarily results from so vicious and wrong a theory—for between high taxes imposed by the state and the dangers from forest fires due to inadequate laws and the lack of fire prevention methods

and patrol the forest owner is indeed between the devil and the deep sea. There is likewise no state forest bureau or organization having under its charge forest statistics or reliable data thereon. No one knows except approximately the startling total fire loss, nor even the forest stand, so that figures used here as to the latter must be considered only relatively correct. If to individual indifference there be added the indifference of southern legislators, national and state, and the states' total disregard of their duty and opportunity, is it small wonder that there is no "Conservation" in the South.

What Shall Be Done?

The plain statement of facts calls for some suggestions as to the remedy necessary and possible. The forest question involves equally in responsibility the nation, the state and the individual, in simultaneous co-operation. The nation is doing a part of its duty in the establishment of the area it has set aside for forest reserves in the West, and must finally give us, because the people will finally compel it to do so, national forest reserves in the East at the headwaters of important streams—this will finally mean the Appalachian forest and the White Mountain forest and other important areas similarly situated and needed.

The states must acquire forest areas for state forests, as New York and Pennsylvania have done and are still doing; the state must demonstrate to its citizenship, as *it* only can on any large scale, that tree growing is profitable; that there is a state duty in passing and enforcing fire laws; that there is a state duty in equalizing taxation on lands that are to be and should be conserved; that there exists the *state's right* to insist that lumber operations shall be so conducted on sane lines that the state shall not be made a desert waste.

The individual must be made to realize the conditions and their gravity; to help the nation and the state by hearty co-operation in conservation plans; to awaken to the moral issues involved; to assume his responsibilities willingly; to see himself as a public servant, with clearly defined duties to his state and to his fellow-men; to realize that quite apart from its functions as a producer of lumber, the forest has an even more important bearing on agriculture, climate, health and water conservation, and that its total destruction cannot be permitted.

I am enough of an optimist to say and to believe that these necessary things can be done; that as the knowledge of conservation grows, we shall stir into action influences that will not rest, until these necessary things *shall* be done. When done and only then, shall the nation escape the fate that nature inevitably exacts from peoples who grossly misuse her bounty and disregard her wise plans.